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Bibliographies on Fabric Flammability

Testing and Test Methods

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Bibliographies on Fabric Flammability

Part 5. Testing and Test Methods

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Fabric Flammability Bibliographies

Preface

The Secretary of Commerce, under the 1967 amendment to the Flammable Fabrics Act, was authorized to conduct research into the flammability of products, fabrics and materials, conduct feasibility studies on reduction of flammability, develop flammability test methods and offer appropriate training in the use of flammability test methods. These responsibilities were delegated to the National Bureau of Standards.

In order to facilitate these four areas of investigation, it is necessary to have a thorough knowledge of what has been accomplished and what is being done by others in the field. Therefore, as part of the program of the Office of Flammable Fabrics, a series of bibliographies is being developed in cooperation with the staff of the Library of the National Bureau of Standards.

Each bibliography deals with a specific facet of the fabric flammability problem, such as flammability of wearing apparel, flammability of carpets and rugs, smoke and noxious products of combustion, *etc.* These bibliographies are working documents and will be updated and reissued as warranted. All the items listed will be on file at an Information Center at the National Bureau of Standards and available for inspection by those interested. However, copyright restrictions prevent the distribution of copies of these documents.

Citations for these bibliographies have been collected through a review of abstracting and indexing journals, such as *World Textile Abstracts*, *Chemical Abstracts*, *Applied Science and Technology Index*, *Engineering Index*, and *Business Periodicals Index* for the period 1960 through 1969, as well as from various footnotes and bibliographies. The elements of each citation will vary with the type of publication cited. Initially, they will include: author or issuing agency; title of article or paper; title of journal; title of book, chapter and chapter number; volume number; issue number; edition other than first; publisher, place and date of publication, inclusive pages; and number of references given. Later versions will include abstracts.

Arrangement is alphabetical by surname of the first author or by title if there is no author. When readily available the AD, PB, NASA or STAR numbers are supplied. Author and key word indexes are provided.

The following symbols signify certain types of citations:

*—a publication that has not been seen by the compilers of this bibliography.

**—a short item such as a news note, or subsection of an article.

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The literature on the flammability of fabrics is highly fragmented and difficult to cover completely; consequently, some items in the literature may have been omitted. It would be greatly appreciated if those using the bibliographies would inform the Office of Flammable Fabrics, National Bureau of Standards, Washington, D.C. 20234 of any items that are not included of which they have knowledge.

Acknowledgement

The authors wish to express their appreciation for the assistance provided by many people at the National Bureau of Standards in the preparation of these bibliographies. Special thanks are extended to Mrs. Mary E. Roger, for typing the many citations on magnetic tape, and to Mr. Rubin Wagner and Mrs. Sharon F. Holdridge, Computer-Assisted Printing Section, for preparing the material for computer printing.

Abstract

This, the fifth of a series of bibliographies on fabric flammability, relates to test methods and testing of fabrics and products made from fabrics and related materials. Unlike the earlier bibliographies, which cited references to flammability of categories of fabric products, this one cuts across product lines and covers all of the products within the ranges defined in the 1967 amendment to the Flammable Fabrics Act. Approximately 300 citations are included.

Key words: Bibliography of test methods; burning; burning rate; combustion; fire; fire retardant; flame; flame spread; gases; ignition; smoke.

Part 5. Testing and Test Methods

Introduction

Many methods have been devised for measuring the parameters involved in the burning of fabrics and products made from fabrics or related materials. These have ranged from crude tests, such as holding an item in the small flame of a match, to highly sophisticated evaluations involving apparatus costing thousands of dollars. Ignition, flame spread, rate of flame spread, production of combustion products, and heat transfer have been measured. Products have been tested in horizontal and vertical positions and all angles in between. Many of the tests have been definitive; many, not.

This bibilography is an attempt to collect all of the references related to tests and test method development for fabrics and related materials under one cover in order to assist those interested in this broad subject. Over 300 citations are included.

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